

Appln. No. 09/975,262  
Reply to the Office Action of June 4, 2004

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claim 1. (Previously Presented) A method for producing a silicon nitride filter, which comprises:

heat-treating, in an atmosphere consisting essentially of nitrogen or consisting essentially of a combination of an inert gas and nitrogen in which the partial pressure of nitrogen is at least 50 kPa, a green body comprising:

from 35 to 90 wt % of silicon nitride particles having an average particle diameter of from 1 to 30 $\mu$ m,

from 5 to 60 wt % of a pore-forming agent of spherical organic polymer particles selected from the group consisting of a polyvinyl alcohol, an acrylic resin, a vinyl acetate resin or cellulose ranging in size from 20 to 100  $\mu$ m and

from 0.1 to 5 wt % of metal oxide solid particles,

provided that the total amount of the silicon nitride particles, the pore-forming agent and the metal oxide particles is at least 90 wt %, to form a product having a porosity ranging from 30 to 80 % and an average pore diameter as measured by a mercury immersion method ranging from 5 to 40  $\mu$ m that effectively filters particulate matter from diesel fuel.

Claim 2. (Original) The method for producing a silicon nitride filter according to Claim

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1, wherein the metal oxide particles contain, as the main component, an oxide of at least one metal selected from the group consisting of Al, Ca, Sr, Ba, Y, Mg and Yb.

Claims 3 and 4. (Canceled)

Claim 5. (Original) The method for producing a silicon nitride filter according to Claim 1, wherein the average pore diameter as measured by a mercury immersion method of the filter is from 5 to 20  $\mu\text{m}$ .

Claim 6. (Original) The method for producing a silicon nitride filter according to Claim 1, wherein the heat-treating conditions are such that the green body is maintained in a nitrogen atmosphere at a temperature within a range of from 1,450 to 1,800° C for from 1 to 12 hours to carry out the heat treatment.

Claims 7-22. (Canceled)